

Comparison of MetAP2 Homologues (mouse SEQ ID NO:13; rat SEQ ID NO:14; human = SEQ ID NO:12; yeast = SEQ ID NO:14)

|       | 15               | 16              | 30              | 31               | 45               | 46              | 60            | 61              | 75  | 76  | 90  | 90  |
|-------|------------------|-----------------|-----------------|------------------|------------------|-----------------|---------------|-----------------|-----|-----|-----|-----|
| mouse | MAGEQAAASFGGHLN  | GDLDPDDREEGTSST | AAAACKKKRKKKKKG | KGAVSAVQOELDKES  | GALVDEVAKOLESQLA | LEEKERDDDEDGNG  |               |                 |     |     |     |     |
| rat   | MAGEEEAASSFFGHLN | RDLDPDDREEGTSST | AAAACKKKRKKKKKG | KGAVSAGQOELDKES  | GTSVDEVAKQLERQA  | LEEKEKDDDEDGDD  | 90            |                 |     |     |     |     |
| human | MAGVEEVAASGSHLN  | GDLDPDDREEGAAT  | AAAACKKKRKKKKKS | KGPSSAAGEQEPDKES | GASVDEVAROLERSA  | LEDKERDDDEDGDD  | 90            |                 |     |     |     |     |
| yeast | -----            | -----           | -----           | -----            | -----            | -----           | SPASDLKELNNEG | VEQQDQAKADESDPV | 38  |     |     |     |
|       | 91               | 105             | 106             | 120              | 121              | 135             | 136           | 150             | 151 | 165 | 166 | 180 |
| mouse | DADGATGKKKKKKK   | KRGPKVQTDPGSVPI | CDLYPNGVPKGQEC  | EYPPTDGRTAAWRT   | TSEEKKALDQASEEI  | WNDFREAAEAHRQVR |               |                 |     |     |     | 180 |
| rat   | DGDGAAGKKKKKKK   | KRGPRVQTDPGSVPI | CDLYPNGVTFKGQEC | EYPPTDGRTAAWRT   | TSEEKKALDQASEEI  | WNDFREAAEAHRQVR | 180           |                 |     |     |     |     |
| human | DGDGATGKKKKKKK   | KRGPKVQTDPGSVPI | CDLYPNGVPKGQEC  | EYPPTDGRTAAWRT   | TSEEKKALDQASEEI  | WNDFREAAEAHRQVR | 180           |                 |     |     |     |     |
| yeast | ESKKKKKKKKKKKS   | N-----VKKI      | ELLFPDGKYPEGAWM | DYHQDENLQRTDEE   | SRYLKRDLERA--EH  | WNDVRKGAEIHRVR  | 116           |                 |     |     |     |     |
|       | 181              | 195             | 196             | 210              | 211              | 225             | 226           | 240             | 241 | 255 | 256 | 270 |
| mouse | KYVMSWIKPGMTMIE  | ICEKLEDCSRKLIKE | NGLNAG-----LA   | FPTGCSLNNCAAHYT  | PNAGDTTVLQYDDIC  | KIDFGTHISGRIIDC | 263           |                 |     |     |     |     |
| rat   | KYVMSWIKPGMTMIE  | ICEKLEDCSRKLIKE | NGLNAG-----LA   | FPTGCSLNNCAAHYT  | PNAGDTTVLQYDDIC  | KIDFGTHISGRIIDC | 263           |                 |     |     |     |     |
| human | KYVMSWIKPGMTMIE  | ICEKLEDCSRKLIKE | NGLNAG-----LA   | FPTGCSLNNCAAHYT  | PNAGDTTVLQYDDIC  | KIDFGTHISGRIIDC | 263           |                 |     |     |     |     |
| yeast | RAIKDRIVPGMKLMD  | IADMINTTRKYTAGA | ENLLAMEDPKSQGIG | FPTGSLNHNCAAHFT  | PNAGDTTVLKYEDVM  | KVDYGWQYNGNLIDS | 206           |                 |     |     |     |     |
|       | 271              | 285             | 286             | 300              | 301              | 315             | 316           | 330             | 331 | 345 | 346 | 360 |
| mouse | AFTVTENPKYDILIT  | AVKDATNTGIKCAGI | DYRLCDVGAEIQEVN | ESYEVEILDGKTYQVK | PIRNLNGHSIGPYRI  | HAGKTVPIVKGGEAT |               |                 |     |     |     | 353 |
| rat   | AFTVTENPKYDILIK  | AVKDATNTGIKCAGI | DYRLCDVGAEIQEVN | ESYEVEILDGKTYQVK | PIRNLNGHSIGPYRI  | HAGKTVPIVKGGEAT |               |                 |     |     |     | 353 |
| human | AFTVTENPKYDILIK  | AVKDATNTGIKCAGI | DYRLCDVGAEIQEVN | ESYEVEILDGKTYQVK | PIRNLNGHSIGQYRI  | HAGKTVPIVKGGEAT |               |                 |     |     |     | 353 |
| yeast | ATVVSFDQYDNLLA   | AVKDATATGIKEAGI | DYRLTDIGEAIQEVN | ESYEVEINGETYQVK  | PCRNLCGHSHIAPYRI | HGGKSVPIVKNGDTT | 296           |                 |     |     |     |     |
|       | 361              | 375             | 376             | 390              | 391              | 405             | 406           | 420             | 421 | 435 | 436 | 450 |
| mouse | RMEEGEVYAAETFGS  | TGKGVVHDDMECSHY | MKNFDVGHVPIRLPR | TKHLLNVINENFGTL  | AFCRRWLDRLGESKY  | LMALKNLCDLGIVDP | 443           |                 |     |     |     |     |
| rat   | RMEEGEVYAAETFGS  | TGKGVVHDDMECSHY | MKNFDVGHVPIRLPR | TKHLLNVINENFGTL  | AFCRRWLDRLGESKY  | LMALKNLCDLGIVDP | 443           |                 |     |     |     |     |
| human | RMEEGEVYAAETFGS  | TGKGVVHDDMECSHY | MKNFDVGHVPIRLPR | TKHLLNVINENFGTL  | AFCRRWLDRLGESKY  | LMALKNLCDLGIVDP | 443           |                 |     |     |     |     |
| yeast | KMEEGEHFATEETFGS | TGRGYVTAGEVSHY  | ARSAEDHQVMPLDS  | AKNLLKTDNRNGFTL  | PFCCRRLDRLQEKY   | LFALNNLVRHGLVQD | 386           |                 |     |     |     |     |
|       | 451              | 465             | 466             | 480              |                  |                 |               |                 |     |     |     |     |
| mouse | YPLCDIKGSYTAQF   | EHTILLRPTCKEVVS | RGDDY--         |                  |                  |                 |               |                 |     |     |     |     |
| rat   | YPLCDIKGSYTAQF   | EHTILCAQFVKKLSA | EEMTIKT         | 478              |                  |                 |               |                 |     |     |     |     |
| human | YPLCDIKGSYTAQF   | EHTILLRPTCKEVVS | RGDDY--         | 480              |                  |                 |               |                 |     |     |     |     |
| yeast | YPLNDIPGSYTAQF   | EHTILLHAHKKEVVS | KGDDY--         | 478              |                  |                 |               |                 |     |     |     |     |
|       |                  |                 |                 |                  |                  |                 |               |                 |     |     |     |     |

Figure 1

## MetAP2

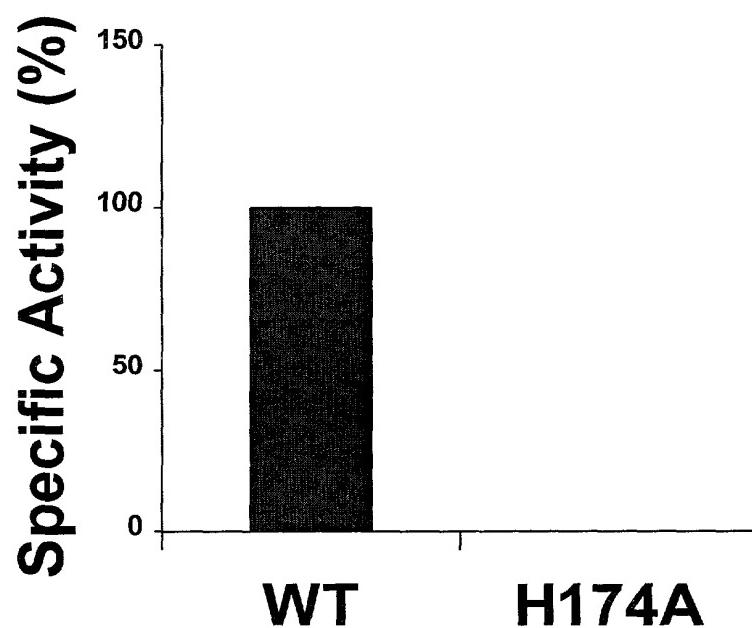
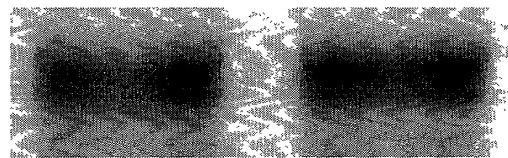
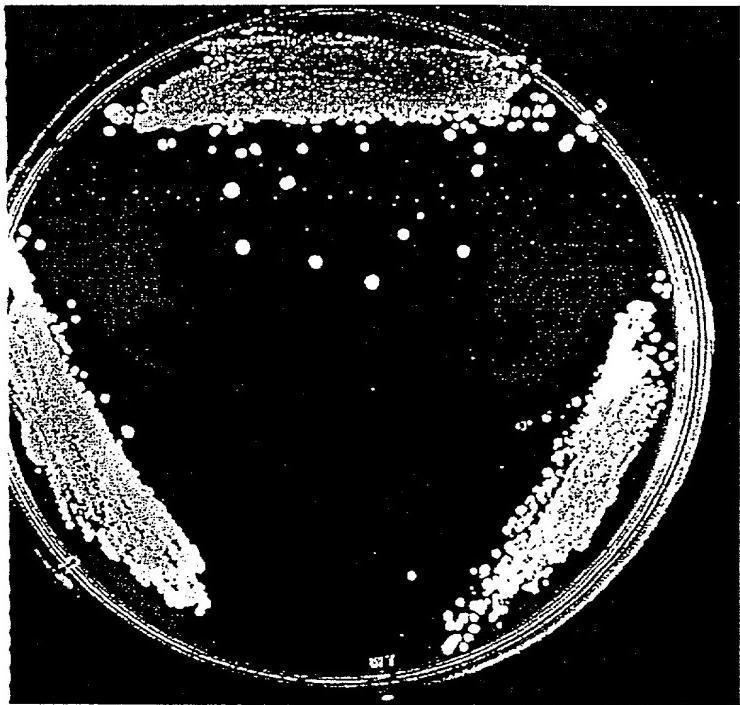
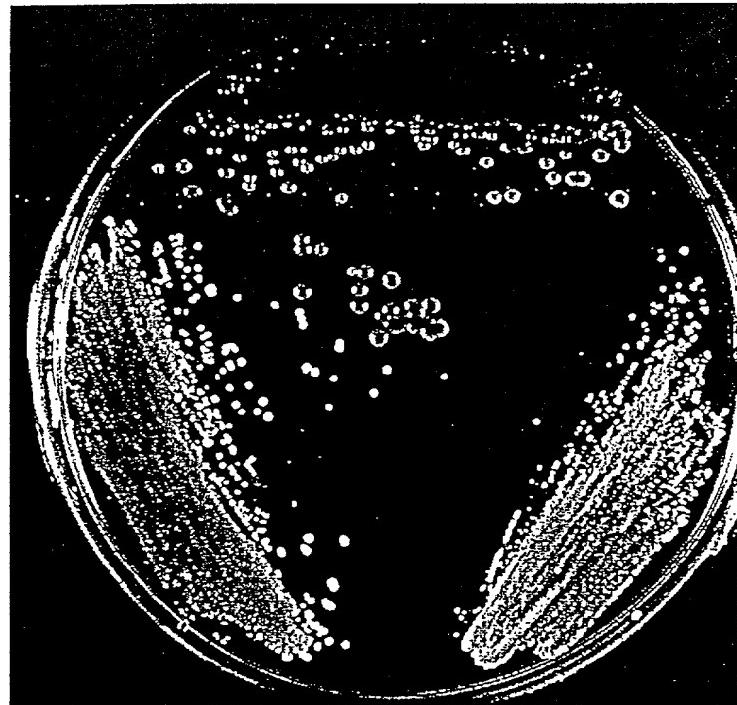


Figure 2



A. Glucose



B. Galactose

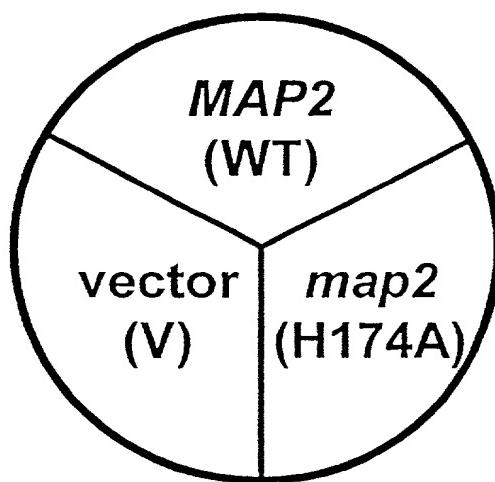


FIGURE 3

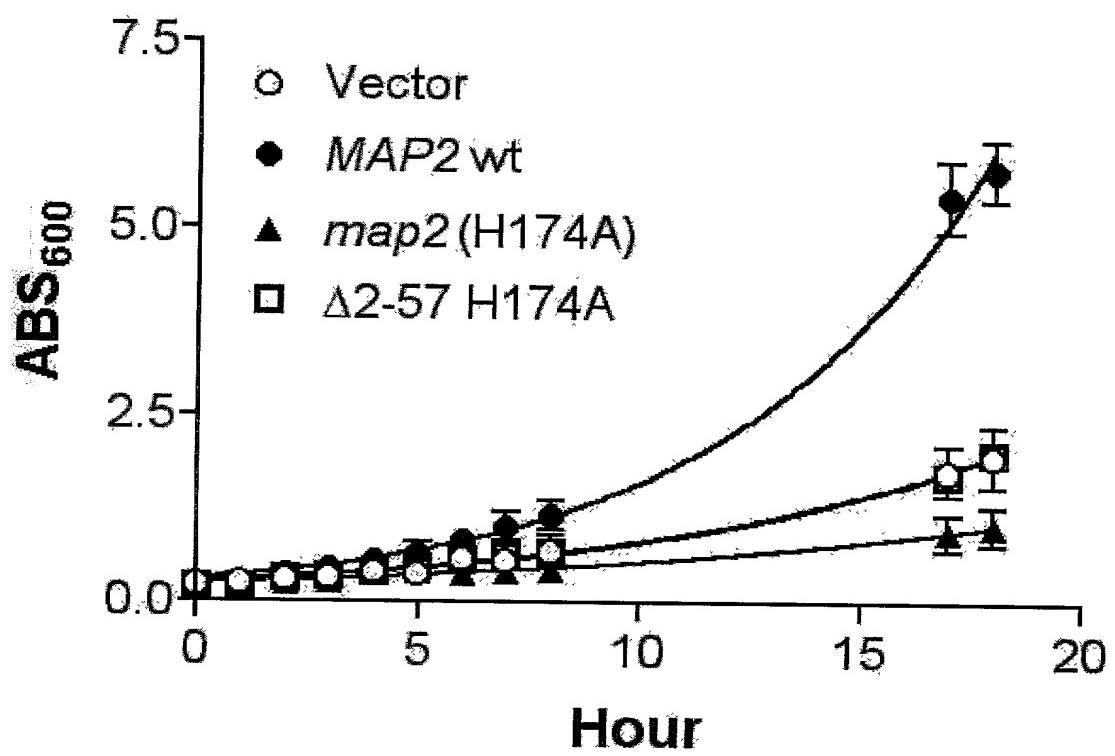
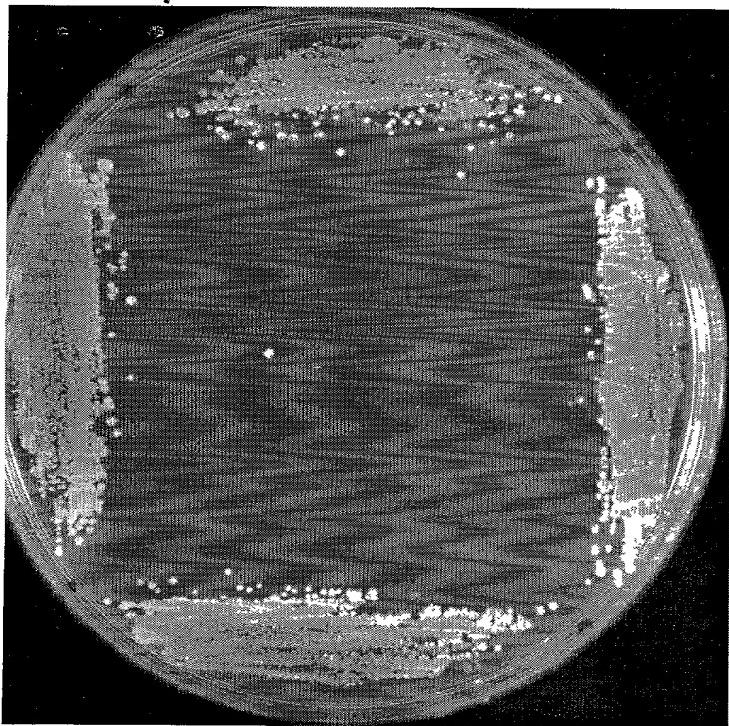
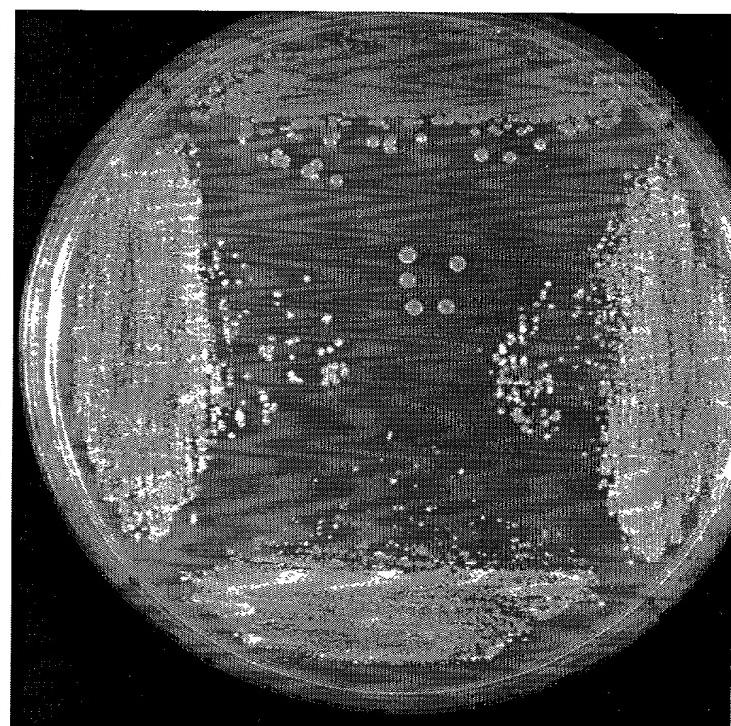


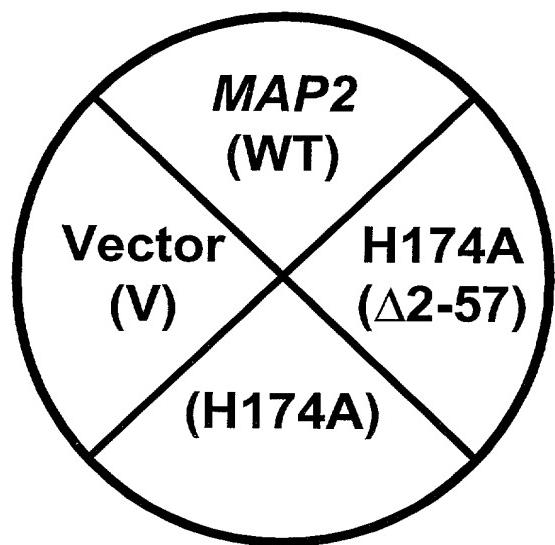
Figure 4



**A. Glucose**

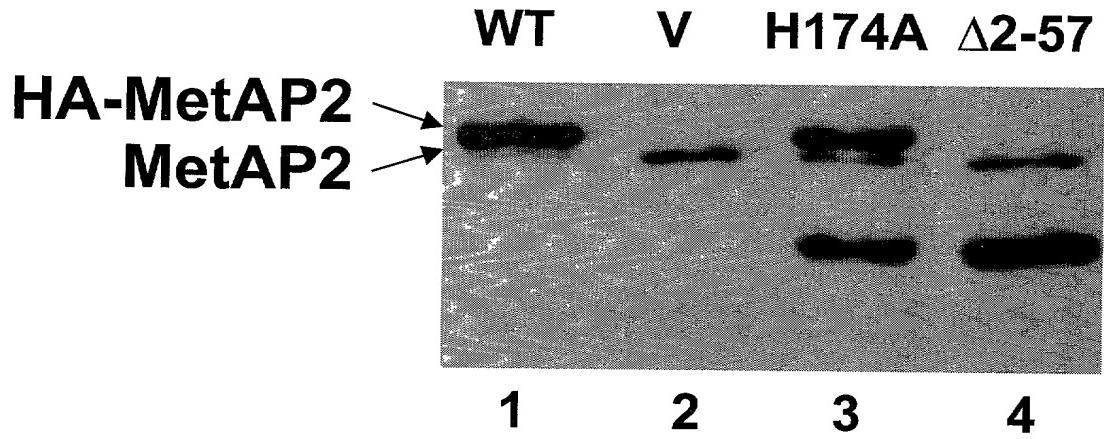


**B. Galactose**



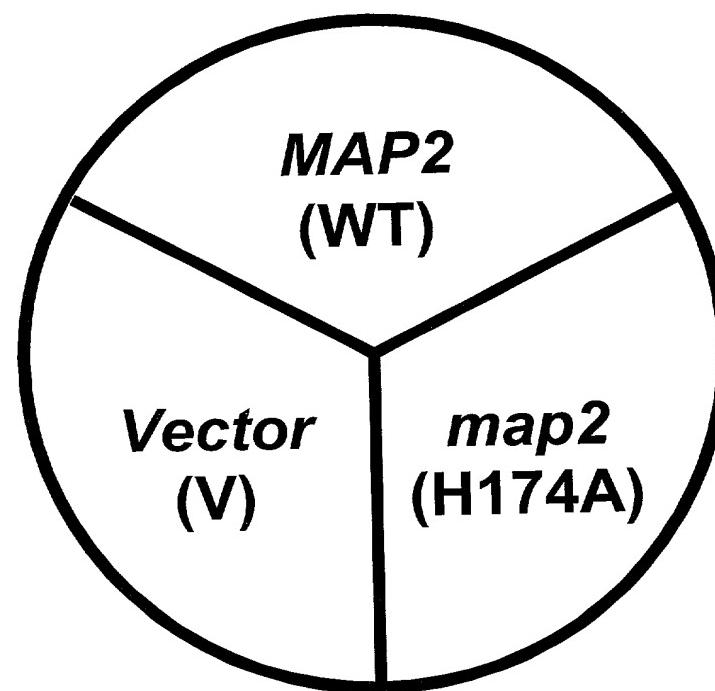
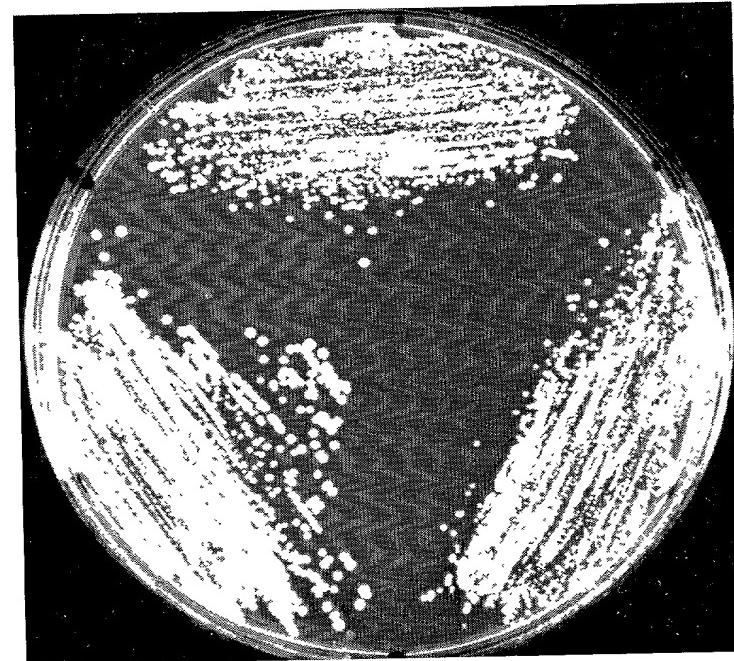
H174A-MetAP2 requires N-terminal residues 2-57 for inhibition of map1 $\Delta$  growth under the GAL1 promoter.

Figure 5



The steady state levels of each MetAP2 construct are comparable. Immunoblot comparison of HA-MetAP2 wt, HA-MetAP2 H174A, and MetAP2 Δ2-57 H174A steady state levels in map1Δ.

Figure 6



Overexpression of H174A-MetAP2 under the GPD promoter does not inhibit the growth of map2Δ

Figure 7

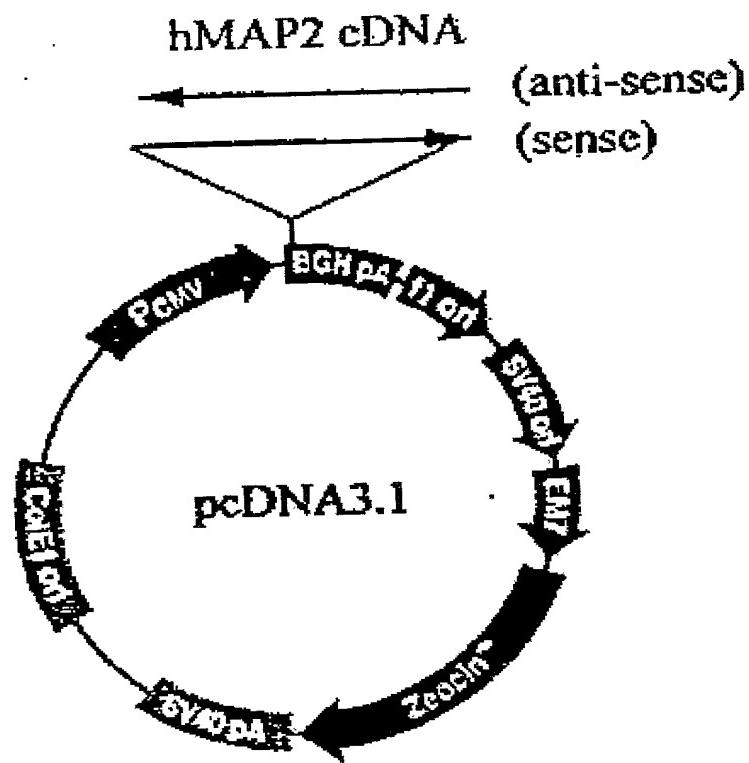


Figure 8

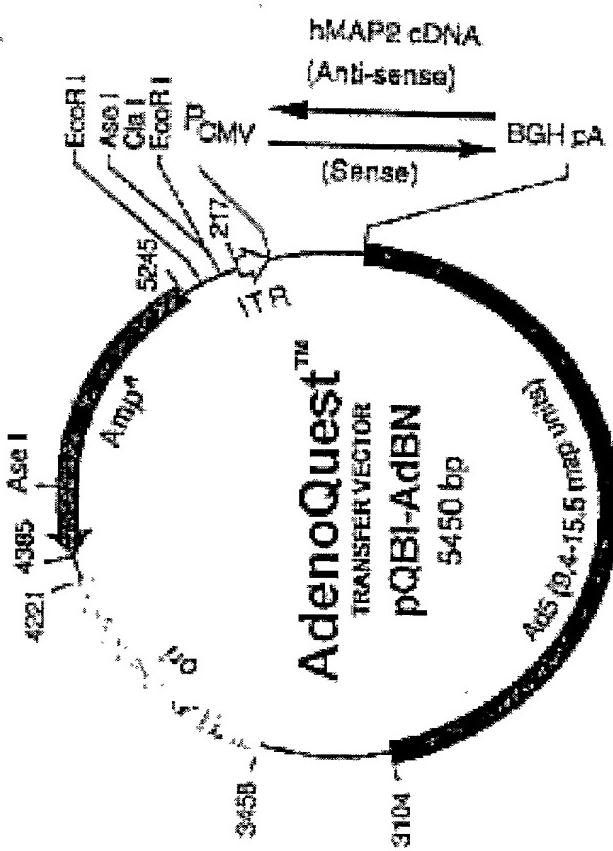
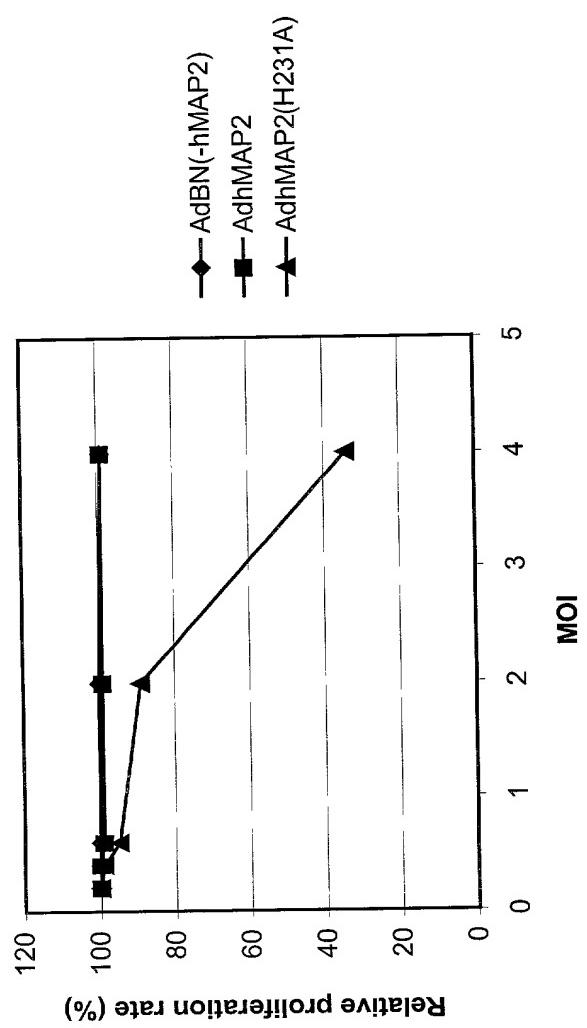
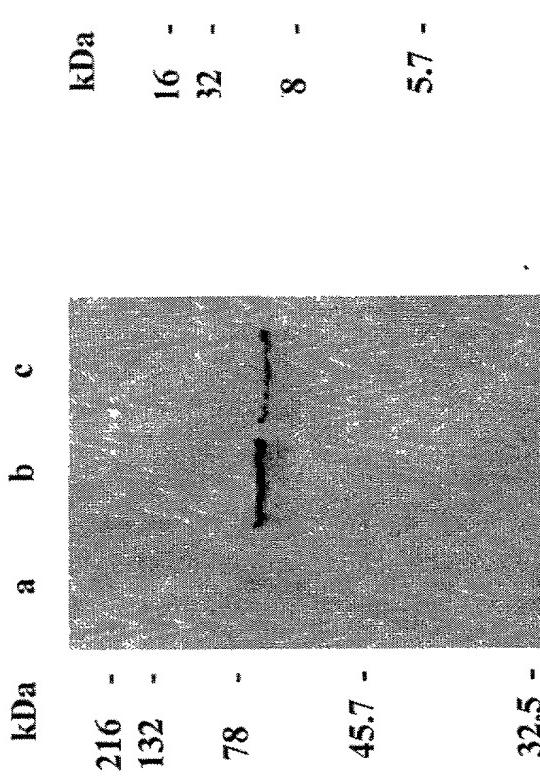


Figure 9

Figure 10



**A**



**B**

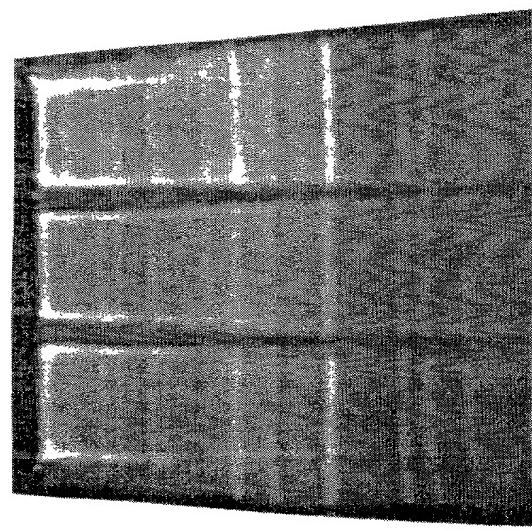


Figure 11